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Tefft, Thomas Alexander

Universal currency

London

1858

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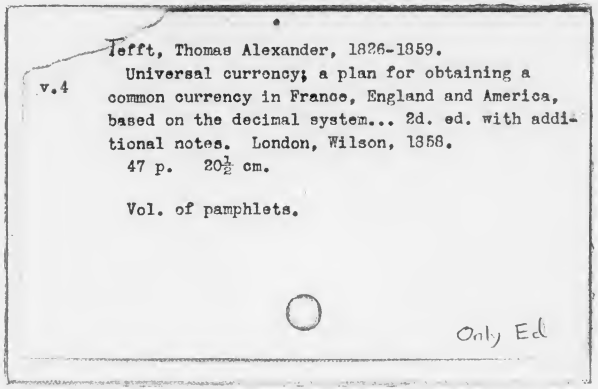

Tefft, Thomas Alexander, 1826-1859.
v.4 Universal currency; a plan for obtaining a common currency in France, England and America, based on the decimal system... 2d. ed. with additional notes. London, Wilson, 1858.
47 p. 20½ cm.

Vol. of pamphlets.

Only Ed

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TECHNICAL MICROFORM DATA

FILM SIZE: 35mm REDUCTION RATIO: 11:1 IMAGE PLACEMENT: IA (IIA) IB IIB

DATE FILMED: 3-4-98 INITIALS: PB

TRACKING # : 31952

FILMED BY PRESERVATION RESOURCES, BETHLEHEM, PA.

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UNIVERSAL CURRENCY.

A PLAN FOR OBTAINING A COMMON CURRENCY IN FRANCE, ENGLAND, AND AMERICA, BASED ON THE DECIMAL SYSTEM;

WITH

SUGGESTIONS FOR RENDERING THE FRENCH DECIMAL SYSTEM OF WEIGHT AND MEASURE MORE SIMPLE AND POPULAR.

BY

T. A. TEFFT, B.P.,

STATE COMMISSIONER OF INDUSTRIAL ART EDUCATION FOR RHODE ISLAND, U.S.

SECOND EDITION,

WITH ADDITIONAL NOTES.

LONDON:

EFFINGHAM WILSON, 11, ROYAL EXCHANGE;
JAMES RIDGWAY, PICCADILLY;
MESSRS. A. & C. BLACK, EDINBURGH.

1858.

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PREFACE.

The changing of money, in consequence of the variations in the currencies of civilised nations, has long been a burdensome and a senseless tax on commerce, and to travellers an intolerable annoyance.

The fifty thousand miles of railway communication which have come into existence during the last quarter of a century, shew how rapidly the old barriers of distance and isolation are disappearing.

The interests of three and a half billions of dollars thus invested, and the commercial interests of Austria, Germany, and France, now so much injured by the absurd and useless system of many currencies and passports, must soon compel the overthrow of these obstacles in the way of civilisation.

Our material trading and travelling age demands that the feudal relic of many units of money should be abandoned, and that one standard of coinage should be current in every country traversed by the steam-engine.

A plan for attaining this universal currency to be successful must have regard to the prejudices and types of coins of the principal nations. The English,

or American, or French method alone does not meet the case.

The plan I have proposed, which to me appears to be the most perfect and practicable, employs the oldest and most widely known unit, and the French metrical system as the basis. It is submitted to the reader, with the hope that he may rise above mere local prejudice and trifling technical difficulties to a broad and generous view of the subject.

T. A. TEFFT.

51, *Jermyn Street*,
London, June 24, 1858.

UNIVERSAL CURRENCY.

THE last few months have shown a commercial relation and mutual dependency between France, England, and America, which was previously but little understood; and yet, great as is this alliance of interest or business intercourse between these countries, each has a different unit for the standard of value.

This unit has to undergo a dividing or multiplying process, in order that the property valuation of one country may be readily understood in another. The Englishman resolves dollars and francs into pounds; the Frenchman changes dollars and pounds into francs; and the American has to multiply the English and divide the French currency, so that each shall understand the property question before him according to his own standard of valuation. Yet the French currency is a decimal system, very much the same as the American, except in the unit; and the English pound or sovereign has its counterpart, within a very small fraction, in value, in the American five-dollar piece, and in twenty-five pieces of the French standard coin.

With the prospect of an increasing intercourse between these three leading nations — when England is contemplating a change from her present currency to one founded on the decimal system — with the French and American currencies so much alike, except in the unit—when there is so much intricacy and useless vexation, or obstruction to commerce growing out of the various units which now exist, from their want of harmony in general value, standard, weight, or fineness—it is certainly worth while to entertain more seriously than heretofore the question of a general system established on the same *unit*, and having the same weight, the same fineness and decimal divisions. A common currency in the three nations foremost in all the arts, in manufactures, and in commerce, would without doubt become the currency of the world. The attainment of so grand an object must be realised to be duly appreciated in all its workings of convenience and good. It can never be realised, however, until it is earnestly entertained, and the present appears to be a most favourable time for entertaining such a question. Hence I venture to put forth this plan, hoping it will in some way contribute towards the end proposed.

Decimal currency, founded on *decimal weight, its only true basis*, was first proposed as a part of the metrical system adopted in France in 1790, and fully established in 1840. This French system of currency is now in use throughout France, Belgium,

Switzerland, and Piedmont, and is about to be adopted by Spain, Portugal, and Tuscany.

Without reviewing the development of this very perfect and widely-known system, or the justly popular American currency, and without discussing the suggestions on the subject put forth from time to time, from the interesting report of John Quincy Adams, when Secretary of State, 1821, to the discussion of Mr. Yates' paper before the British Institute of Engineers in 1854, or the more recent paper of Mr. Alexander on assimilating the American and English currencies, I shall briefly state what appears to me, after studying the subject in various countries, to be the best system of coinage for the universal medium of exchange.

The subject presents itself thus:—

What unit is best suited to an UNIVERSAL CURRENCY?

What shall be the coins above, and the divisions below, the unit?

What shall be the standard weight and fineness?

In seeking for a unit as a basis of this general system, it is important to select one that already exists in a large and increasing currency, if such an one can be found to answer the purposes best, and render the recoinage necessary on about the same conditions in each of the three countries. It is also

desirable to select a medium unit between the extremes which exist, if this is practicable.

The unit of the dollar will be found to answer those conditions.

It already exists in a coinage of five hundred millions, is of ancient origin, is best known in the different quarters of the globe, has its counterpart in the German, Italian, and Spanish currencies, and it is the intermediate unit between the franc and the pound.

I propose, then, the dollar as the universal unit.

Its value to be exactly the same as five francs of the French, or four shillings of the English currency, *under the new system*. This unit of the currency, the dollar, to exist only in the gold coin; no silver coinage allowed in pieces larger than fifty cents, or half-a-dollar.

The pieces of coinage to be —

In Gold 1 dollar, the unit = 4 shillings or 5 francs.
2 dollars = 10 francs - - } for France.
4 ,, = 20 ,, the Napoleon }
2½ ,, = 10 shillings - - } for England
5 ,, = 20 ,, the Sovreign } & America.
10 ,, = 40 ,, 50 frs., 2 sov., 2½ Naps., 1 eagle.

In Silver 50 cents, half-dollar, florin, 2 shillings, 2½ francs.
(25 ,, the shilling) for Engand and America.
(20 ,, the franc) ,, France.
10 ,,
5 ,,

In Copper 2 ,, the penny, 10 centimes.
1 cent ½ ,, 5 ,,
½ ,, 5 mills, the farthing.
(¼ ,, 2½ ,, ½ ,,) for England.
(⅕ ,, 2 ,, 1 centime) for France.

For the standard in weight, I propose the French coinage—the only coinage based on a decimal weight, with a very slight change — in order to have the dollar, 1·6 grammes, a simple quantity, instead of the present fractional weight of five francs in gold, 1·6129; and the weight of the dollar in silver, 22·5, instead of 25 grammes, the present weight of five francs. Then the ratio between the two metals would be 14·0625. This would scarcely disturb the gold standard in France and England, and merely raise the value of silver in France to its corresponding value to gold in England and America.

All gold and silver coinage to be nine-tenths fine.

The copper coin — the coin of greatest token value — to be of the same mixture as now used in France, viz., 95 copper, 4 tin, 1 zinc, and the same weight.

This mixed copper coin would then have for the same value, only about half the weight of the copper coin now used in England and America.

The national types of coins, the Napoleon, the Sovereign, and the Eagle,—the half-dollar and the florin,—the quarter, the shilling, and the franc,—the penny, the cent or sou, and the present centime, would remain undisturbed; although they would all bear their numerical value in dollars and cents. The 10 dollar pieces should have the national arms opposite the medallion side.

In the gold coinage, the dollar would be a new type only in England. In France, the 2 and 4 dollar

pieces, the present types, would probably be retained in place of the 2½ and 5 dollar pieces employed in England and America.

In silver, the English shilling would be 25 cents, and the florin would be 50 cents, the largest silver piece in the new currency. In France, the five-franc and two-franc pieces would be dispensed with, and the half-dollar employed in their stead. The franc would be retained, from its long-established name and associations, as 20 cents, instead of dividing the half-dollar into quarters, as in England and America

In copper coin, the two-cent piece, the same as the ten-centime piece now used in France, would be the penny in England; and the cent, or centime, as it would be called in France, would be equal to five centimes of the present French money, or nearly the half-penny in England. The half-cent would represent the farthing, and the quarter-cent, or 2½ mill piece, would be required to make the *exact* change for sixpence and threepence of present English money (the new penny being 4 per cent less than the old); while the one-fifth cent, or 2 mills, would be *precisely* the same as the present centime in France.

In this re-stamping of money, the French coins now issued should be regarded as the models of taste and excellence.

Under this plan, then, the proposed coinage would have in each country the same unit, the same weight, the same fineness, and the same decimal divisions; thus: 10 mills = 1 cent, 100 cents = 1 dollar.

In this manner, the favourite types of coins, the shilling and the franc, which usually take a strong hold on the people, and the names partaking of individuality and pride, the Napoleon, the Sovereign, and Eagle, would be retained; and, it is fair to suppose, that the intermediate and the ancient unit of the dollar would be recognised as more convenient than the unit of any other currency.

On the following pages may be seen the present currencies of France, England, and America, with their fineness and weights, and the proposed universal currency. Also, a comparison between the standard weights of the principal coins, as they now are, and as proposed in the universal currency.

PRESENT CURRENCY.

FRANCE.

The unit, 1 franc (100 centimes).

	Coins.	Weight in Grammes.
Gold, $\frac{9}{10}$ fine.	5 francs	1·6129
	10 ,,	3·2258
	20 ,,	6·4516
	50 ,,	16·129
Silver, $\frac{9}{10}$ fine.	5 ,,	25
	2 ,,	10
	1 ,,	5
	50 centimes	2 5
	20 ,,	1
Copper,	10 ,,	10
,, 95	5 ,,	5
Tin 4	2 ,,	2
Zinc 1	1 ,,	1

GREAT BRITAIN.

	Coins.			Troy Grains.
Gold, $\frac{11}{12}$ fine.	10 shillings	- - - -	-	61·637
	20 ,,	sovereign -	-	123·274
	40 ,,	double sovereign	-	246·548
	100 ,,	five pounds -	-	616·372
Silver, $\frac{37}{40}$ fine.	5 ,,	crown - -	-	436·364
	$2\frac{1}{2}$,,	half-crown -	-	218·182
	2 ,,	florin -	-	174·545
	1 shilling	- - - -	-	87·273
	6 pence	- - - -	-	43·636
	1 penny	- - - -	-	7·273
Copper.	1 ,,	- - - -	-	291·667
	$\frac{1}{2}$,,	- - - -	-	145·833
	$\frac{1}{4}$,,	or farthing -	-	72,917

UNITED STATES.

Gold, $\frac{9}{10}$ fine.	1	dollar, the unit (100 cents)				-	25·8
	$2\frac{1}{2}$	dollars -	-	-	-	-	64·5
	3	,, -	-	-	-	-	77·4
	5	,, -	-	-	-	-	129·
	10	,, the eagle		-	-	-	258·
Silver, $\frac{9}{10}$ fine.	1	dollar -	-	-	-	-	384·
	50	cents -	-	-	-	-	192·
	25	,, -	-	-	-	-	96·
	10	,, -	-	-	-	-	38·4
	5	,, -	-	-	-	-	19 2
Mixed	3	,,					
Copper.	1	cent -	-	-	-	-	168·
	$\frac{1}{2}$	,, or 5 mills	-	-	-	-	84·

PROPOSED UNIVERSAL CURRENCY.

The unit, 1 dollar (100 cents).

	Coins.		Weight in Grammes
Gold, $\frac{9}{10}$ fine.	1	dollar, 4 shillings, 5 francs - -	1·6
	2	dollars, 10 francs, for France - -	3·2
	4	,, 20 ,, ,, - -	6·4
	$2\frac{1}{2}$	,, 10 shills. for England & America	4.
	5	,, 20 ,, ,, ,,	8·
	10	,, 40 shillings, 50 francs - -	16·

	Coins.		Weight in Grammes.
Silver. $\frac{9}{10}$ fine.	50 cents,	2 shillings - - - - -	11·25
	(25 ,,	1 ,, for England and America	5·625)
	(20 ,,	1 franc, for France - - -	4·5)
	10 ,,	- - - - - - - - -	2 25
	5 ,,	- - - - - - - - -	1·125
Copper, ,, 95 Tin 4 Zinc 1	2 ,,	penny - - - - - - -	10·
	1 cent	- - - - - - - -	5·
	$\frac{1}{2}$,,	5 mills - - - - - -	2·5
	($\frac{1}{5}$,,	$2\frac{1}{2}$,, for England - - -	1·25)
	($\frac{1}{5}$,,	2 ,, for France - - -	1·)

The Present Standards and the one Proposed.

GOLD.

	Grains.
Fine Gold in 5 dollars present standard - - -	116·1
,, ,, ,, the sovereign ,, ,, - - -	113·001
,, ,, ,, 25 francs ,, ,, - - -	112·008
,, ,, ,, 5 dollars, proposed ,, - - -	111·112

	Present Weight in Troy Grains.		*Proposed Weight* in Troy Grains.	in Grammes.
5 francs ($\frac{9}{10}$) - -	24·8908			
4 shillings ($\frac{11}{12}$), $\frac{1}{5}$, $\frac{1}{11}$ added for diff. in fineness	25·1114	1 dollar =	24·6917	1·6
1 dollar ($\frac{9}{10}$) - -	25·8			

SILVER.

$2\frac{1}{2}$ francs ($\frac{9}{10}$) - -	192·904			
2 shillings ($\frac{37}{40}$), $\frac{1}{37}$ added for diff. in fineness -	179·393	$\frac{1}{2}$ dollar =	173·614	11·25
$\frac{1}{2}$ dollar ($\frac{9}{10}$) - -	192·			

COPPER.

1 sou, or 5 centimes -	77·16			
$\frac{1}{2}$ penny - - -	145·833	1 cent =	77·16	5·0
1 cent - - -	168			

I am perfectly aware that the plan I have here proposed for attaining an universal currency is novel and bold; but I feel quite confident that some plan

like this must be employed to accomplish this much desired result.

Here are three great countries, with their established currencies interwoven with all their pleasure and business habits; each country has its prestige and its pride; and, notwithstanding the advantages to be derived from a common currency may be well understood and acknowledged, yet, it is not at all probable that any two of these countries would adopt the entire system of the third. The French are satisfied with their system; the Americans with theirs; and the English, unless some arrangement like the above succeeds, are likely to have a third decimal system, with the pound sterling for the unit. This has been recommended by the last parliamentary committee appointed to report on the subject; and any one at all familiar with the English character would expect no other result. In no nation of the world is there more reason for pride and love of country than in Great Britain. To entirely change the currency in such a country would be impossible. The most that could be expected, would be *the adoption of a more convenient unit, with decimal divisions and decimal weight, employing at the same time its most familiar type of coin.*

The shilling can never be obliterated from the English mind; it is the unit coin of all the detail transactions, and is equally familiar to the rich and the poor. In the currency I have proposed, it would

be retained in name and value; for the new coin, though stamped as twenty-five cents., would always be known as the shilling. In France, also, where the unit of the franc is universally admitted to be too small, no change could be effected that did not recognise this same franc in name and value. Hence the franc, as a fifth of the dollar, and stamped as twenty cents., remains a part of the universal currency.

In America, the unit and the principal types of coins would remain unchanged. Only a few odd pieces, which have been coined injudiciously, such as the three dollar piece in gold, the nickel cent. (like silver in colour), and the mixed three cent. piece, would be rejected.

But nations, like individuals, cannot make changes without reason, and neither of the above-mentioned countries could be expected to re-stamp its coinage, unless it could be convinced that it lost nothing by the undertaking. It is this practical view of the subject which has led me to propose the smallest possible change from the present weight of coinage, in order to obtain a harmony in the currencies. But let it be distinctly understood, that the proposed depreciation of weight would be so slight, that it would not be known in all the ordinary commercial transactions. The value of the franc, the dollar, and the pound, would remain the same in their respective countries in ordinary trading intercourse. The old gold and silver coin of America, or the silver of

France, would only obtain premium rates when taken for exportation or in large specie trades, and then this premium would always be highest at the Mint, and, therefore, the old money would soon be replaced by the new. In a considerable part of the present coin, the abrasion that has taken place would bring it below the new in value, though, as a whole, the value of the old coin, taken according to its weight, would be above the new. The difference, however, between much of the French gold and the English gold and silver of the lowest tolerance now in use, and the new standard, being within the limits of the allowed remedy, renders the transition from the old to the new system so easy that to many it would scarcely be known. The larger portion of the old coin, being above the new in value, would merely accelerate the change, as there would be an inducement for bringing all such money to the Mint. Thus the re-coinage of the specie of each country could be made without a heavy burthen upon the government.

To effect this grand object, there must be concert of action between the governments, established by means of international treaty, as it is essential that the new system should be commenced in each country at the same time. That a uniform standard in currency is desirable every thinking honest mind must admit. It is an inevitable result in the progress of events. To what nation, then, shall belong the honor

of initiating this great reform? It is a change that can never come of itself; and the majority of people will never dream of its advantages until wise legislators have foreseen them, and had the spirit and practical sense to bestow them upon the world.

Of the many arguments in favour of this plan of an universal currency, perhaps one, not the least convincing to the minds of many, is the fact, that it would confer its advantages without expense to government or people. An important result of the change would be the disuse of silver coins larger than the half dollar. Silver would no longer represent, in a single piece, the unit of the currency, and it should no longer be a legal tender for more than ten dollars in amount.

This would bring the use of the precious metals, as money, more in proportion to their supply; for it is a well-known fact, that while gold coin is augmented by many millions of dollars each year, the addition to silver coin is not perceived; and when silver is thus reduced in size, and a common unit established, the drain of this precious metal to the East, from whence it rarely returns, might be diminished. The gold pieces would have the same unit mark, and the same weight coming from either of the great commercial countries; but the silver would no longer reach the Orientals in its former size. In this manner the gold standard of money would eventually be looked upon by them with favour, for its token as well as its

intrinsic value. The fact that the old Spanish dollar is regarded as a token, and bears a premium above its true value, is evidence that if the gold coin was held forth by the western powers as the uniform permanent standard of exchange, it would soon be acknowledged as such at the East.

Trading with the East must increase rather than diminish. Hitherto this trade has required the silver dollar from its centuries of fixed value; and will probably demand it for some time to come. But this constant drain upon the silver of Europe and America is beginning to be felt; therefore it is well for us to attempt to substitute the gold for the silver dollar, a thing which can never be done so long as there are so many different units or standards of gold.

The ready recognition of the United States Bank Bills at the East, while they represented a national currency, might be adduced as further proof of the feasibility of introducing into the same country a common gold medium, if it was an exact multiple of the old dollar unit, and offered alike from all parts of the civilised world.

Besides, the silver is wanted in small coin, for domestic or detail trade. Gold is fourteen times lighter than silver, and is, therefore, better adapted to transportation.

The legitimate increase of property must have its representation in a metal currency. For this purpose gold is most convenient; and its future supply now promises to be equal to the demand.

Let no one be alarmed, even, at M. Chevalier's opinion as to the decline in the value of gold, although it should continue to increase at $100,000,000 per annum. The opening of new lands, the construction of new roads, and ships, and buildings, will, in the increase of the property value of the world, keep pace with the increase of gold.

It is a most providential thing for commerce that the gold mines yield a metal basis that can be made to represent the increase of property.

France should also consult her interests in this movement, by rejecting the disadvantage she now suffers, from the reason that silver is cheaper here than elsewhere. In all specie transactions between different nations, except with the East, gold is now chiefly employed; and the same weight of this metal, of the same fineness, will buy more weight of silver in France than it will in England or America. By adapting the ratio between the two metals to that which exists between them in other countries, the French Government cannot fail to see its true policy in the re-coinage of its three hundred millions of dollars of silver. And yet the ratio I have proposed, 14·0625, though it raises the value of silver in France from 15·50003+, it is very much the same as the present ratio in England, 14·287+.

But the most powerful, the most unanswerable argument in favour of this movement, is the immense saving of time, labour, and vexation that would be

effected by having but one system of decimal currency.

In England, the displacing of the present unwieldy system by the one here proposed, would be felt and acknowledged at once as a great blessing, from the shopkeeper and trader to the princely merchant; from the heads of large corporations to government officials, where the keeping of accounts is now attended with so much useless trouble and expense.

The economy of managing affairs at custom-houses, and the facility and certainty of all international trading, under the universal currency, would be shared alike by each country. In France, all accounts are kept in francs and centimes; and because the unit of the franc is so small, its divisions into hundredths require, in nine-tenths of the cases where it is used, the writing of a superfluous figure, as the centime is only seen in the most insignificant matters of trade. Instead of writing 25 cents, you now write 1 f. 25 centimes, thus doubling, in many cases, the number of characters required to express the same amount according to the proposed system. The objections that may be raised against the English currency, however, have no parallel. In fact, it seems incredible that the present world-wide commerce of the British empire should remain encumbered with this feudal currency — a currency that requires the most time in the keeping of accounts, and is by far the most tedious to multiply or divide.

The same amount expressed in the three currencies will best illustrate their comparative facility and economy. In the following examples, the dollar is supposed to be equal to five francs, and the pound equal to five dollars:—

American method		$9.65 - - - -	4 characters.
French	,,	{ 48 fs. 25 cts., as usually written { F48.25, as it might be written	5 ,,
English	,,	£1 18s. 7*d.* 2*f.* - -	9 ,,

This is no unfair instance, and yet the French system requires one or two more, and the English more than double the number of characters required by the American method for expressing the same amount.

Let any one multiply or divide this amount, first in the American and then in the English currency, and the comparative convenience of working in the two systems will be more strikingly illustrated:—

$9.65 7	4)9.65

£	*s.*	*d.*	*f.*		£	*s.*	*d.*	*f.*
1	18	7	2		4)1	18	7	2
			7					

The following example, showing the present English system of weight and currency, has been given by General Pasley:—

215 tons 17 cwts. 3 qrs. and 9 lbs. of cast iron columns, etc., at £9 11*s.* 6¼*d.* per ton: –

Tons.		Tons	cwt.	qrs.	lbs.			£	*s.*	*d.*
As 1	:	215	17	3	9	:	:	9	11	6¼
20		20						20		
20		4317						191		
4		4						12		
80		17271						2298		
28		28						4		
2240 lbs.		138177						9193 farthings.		
		34542								
		483597 lbs.								
		9193								
		1450791								
		4352373								
		483597								
		4352373								

224,0)444570722,1(1984690 farthings
224

2205
2016

1897
1792

1050
896

1547
1344

2032
2016

162,1

4)1984690 farthings

12)496172½

20)4134 7*s.* 8½*d.*

£2067 7*s.* 8½*d.*

A parallel example to the above, in the true decimal system of weight and currency, will show the comparative economy of the two systems [the *new* pound (*n*lb.) is the kilogramme, equal to 2½ old pounds, and the ton is equal to 1000 *n*lbs.]—

231627 *n*lbs. of cast iron columns, etc., at 47·87 per ton—

Ton.		n. lbs.		$
As 1	:	231627	: :	47·87
1000		47·87		
1000 lbs.		1621389		
		1853016		
		1621389		
		926508		

1,000) $11087,984·49

In travelling, at home or abroad, the advantages of this universal system would also be very manifest; as in all the great thoroughfares at first, and soon in every civilised part of the world, accounts of expense, or for articles of retail trade, would be given in dollars and cents.

Quotations of the Stock Exchange in all the marts of business would be in the same unit, and, therefore, understood at a glance by the business-man of every nation.

The money-changer at the corner of the street would, doubtless, oppose such a scheme as the one I am advocating; but his motives would be questioned, and I fear he would receive but little sympathy just so soon as the public understood the true merits of

the case. Indeed, travelling would increase with the disappearance of the money-changer, and the manifold perplexities growing out of a strange currency. Business between different nations would be greatly simplified, legitimate trade would expand, and be less liable to fluctuations. The details of the exchange in foreign currencies, its risings and its fallings, on the account of its intricacy, are just so much obstruction to commercial intercouse.

And the importations of luxury or necessity will be dearer or cheaper, just in proportion as we increase or diminish the difficulties of international exchange.

It may not be improper to add here, that with the perfecting of a system of metal currency, paper money should not fail to receive its share of attention.

There no longer exists in the minds of the best business men any doubt as to the necessity of paper money. It must be had for convenience. Specie in large amounts cannot be transferred readily and safely; and so long as there is a commerce, there will be "promises to pay." If the State does not issue them, the merchants will. Therefore, it is becoming more and more evident that every nation should have its bank, and that notes, ranging from twenty-five to twenty-five thousand dollars, should be issued, under every guard and protection that experience has devised, and that these notes should be, like the Bank of England or Bank of France notes, as good as gold in any part of the nation where they are issued.

The amount of paper money issued by such a bank should have a proportion of metallic basis of acknowledged safety, so that the paper would always be convertible into gold. Then, with the consequent distribution of this stock, and with the proper connection of the national bank with all local banking corporations, all interests would be combined in the support and protection of the monetary system; and the devastation of commercial panics, except those arising from reckless speculation and a flagrant abuse of the credit system, would be at an end. The absurdity of having small bank-notes, and fifteen hundred banks issuing these notes in the same country, can be seen alone in the United States.

One of the natural consequences of such a system is, a note or a bill, as it is called, is not recognised when it gets a few hundred miles away from home, and then it is scrutinised in connection with a "Bank-note Detector," and is taken according to the merchantable value assigned it by this journal. Such a banking system may have grown out of a necessity, and answered its purpose; but it leads to the misconception of paper for capital, when such paper is not convertible into gold; and, at present, it seems most unworthy of the intellectual vigour and commercial intelligence that characterises the citizens of the American Republic.

I am aware, one of the objections that would be raised against my plan for an universal currency, by those who have only looked at the subject from an American or English point of view, would be the fact that it was based on the French system of weights, and would, therefore, require the use of this decimal weight in all the public and private banking establishments in England and America. But this would only be required where the precious metals were concerned; and the economy of time and expense effected by the proposed currency would soon more than compensate for the trouble of introducing another system of weighing. Besides, the French decimal weight is now employed to a considerable extent for scientific purposes in England and America, as well as throughout European states. Such a system must have been wanted, or it would not have grown into use. The necessity of such a common decimal weight having been met in matters of science, why should it not be met in commerce? The importance of one weight in its application to the medical profession, to reports and scientific journals, of equal interest in every enlightened country, and to all international trade subject to different standards of weight, consequently involving much useless calculation, can be readily seen.

However, as much as I would like to see an universal system of weight and measure, as well as of currency, yet I regard currency as by far the most

important. Currency is less local, and it can be introduced as I have proposed, it being wholly within the scope of legislation. Weight and measure cannot be legislated into every body's hands like coin. Therefore, I would ask those who are urging the general adoption of the entire metrical system, is not the primary adoption of a common currency based on the decimal weight, the most feasible mode of attaining the whole system? The weight would necessarily form a part of the currency, and thus be its own best advocate, when it became, thongh to a limited application, universal.

In the adoption of this universal currency, England would not only obtain the re-coinage of her money without expense, but she would receive the greatest direct advantage in being freed from her present expensive system of computation. Hundreds of thousands might be saved each year, and much pure vexation and annoyance avoided, by putting aside the pounds, shillings, and pence system of currency.

In the United States there would be no change in the monetary system, and the change in the standard, or gold, would be much less than that which took place in this metal in 1834; while it would give excuse for obtaining a more beautiful and permanent form of coinage, and opportunity for introducing the decimal system of weight.

The small increase in the value of gold could not

act injuriously, since this metal has become, to so large an extent, a national product. Great direct benefits would arise to this country as well as to England in the use of the simple decimal modes of calculation, with one unit of currency, weight and measure, instead of the present complex and expensive system required in all foreign commerce.

France would merely bring her silver to the gold standard; a change that must soon take place, as it is to the advantage of other nations to recoin her silver, and consequently she now suffers from a drain of this metal at the rate of forty millions of dollars per year.

In a prospective point of view, France would gain decidedly the most. The rejection of useless agencies would tend to cheapen the articles of export, and therefore increase such exportation, or it would give more profit to the producer.

It is well known that this country has a certain supremacy in the art manufactures, derived most legitimately from her long established schools of design. The demand, from the American Republic, for this kind of art-work, must continue to increase. The number of luxury-consuming people is now greater in the United States than in any other nation, and in ten or fifteen years the entire population will undoubtedly exceed that of France. Besides, this new country has the most boundless resources of agricultural and mineral wealth. Under these circumstances, with her great prospective increase of population, it is natural to suppose her riches will continue to increase, and her people continue to consume the artistic manufactures of France, and spend much money in travelling over European states. It is thus by increasing the facilities in trade and for travelling that France will be the greatest gainer by the change I am advocating.

It is in this manner that a recoinage would be attained without taxation of any kind; and in neither of the countries would the circulation of the present coins be interfered with. There would be no violence in the change. The present coins of gold and silver being multiples of the new unit, they would thus work together, until the inducement for re-coinage should stamp all metal currency with the common standard.

But aside from the plausible arguments here put forth, is not this a noble as well as a sensible and practical undertaking? Is it not worthy of the attention of every friend to progressive civilization; of every great and generous mind? Would not such a common language in all the material concerns of life, greatly increase our knowledge? And would not the simplicity, and positive convenience of such a reform, give it popularity alike with the rich and the poor?

It may be opposed by some, railways and telegraphs were opposed, but who would now think of dispensing with these great civilisers of our day?

The steam engine now traverses all continents and oceans. The telegraph flashes its electric messages from one part of a continent to another; and it is not improbable that before the summer is past its throbbing beat will signalise the marriage of the Eastern to the Western world. The moat and the drawbridge have passed away. Warfare is no longer waged to extermination. The soldier gives way to the diplomatist; and in a high state of civilisation, the peace congress must be the prevention instead of the conclusion of physical contests among the nations. With the increase of the facilities for intercouse by means of steam there must be a general diffusion of knowledge.

The cylinder printing-press is a part of the steam-engine; and the moving steam power of any country may be taken as an index of its general intellgence.

The foremost nations of the earth have the most property in railways. In this respect the world will never recede; as material interests will preserve and extend this power; and the spreading of intelligence is identical with the preservation of these material interests. It is not an unimportant fact in the progress of events, that one of the first powers of the world has recently shown anxiety over the diminished receipts of railway investment.

Then why should we still continue to have these troublesome relics of a feudal age—these barriers of the currency? Must we go on figuring, and calculating,

and computing for ever, because there *were* many units of money? Is it, indeed, too much to hope for, that the day is not very distant when commerce, in her wide-spreading power, shall stamp her medium of exchange in the same unit, of precisely the same weight and fineness, and make this standard recognized and acknowledged in all parts of the world where the necessities or luxuries of life are produced or consumed? when the price of the same article will be given in the same currency, whether in London, Paris, Berlin, Turin, Vienna, Moscow, Cairo, Calcutta, Canton, New York, or San Francisco.

Let a commission be appointed by the British Parliament, one by the French Emperor, and one by the American Congress, to meet in convention at Brussels, during the coming year, in order to determine upon some plan like the above; and the first practical step will have been taken. Such a convention, if composed of judicious men, would undoubtedly determine upon a mode of introducing the universal currency, that would meet with general approval, and, by means of international treaty, be adopted by the different governments.

If, however, we ignore the strong hold already taken by the French decimal currency, or the metrical system, and attempt to create another decimal system with a unit, and a weight different from those which exist, and allow the present apportunity for establishing the grand harmonious monetary

system to pass, we not only defer for a long time this grand result, but we show indifference to the positive material advantages now so nearly within our possession, and prove that the foremost nations are hardly equal to their accredited intelligence and civilization.

No one can better appreciate the absurdity of many currencies, than by making a tour through the German states. The variations of currency within two hundred miles distance in Italy are bad enough; but, in Germany, it becomes absolutely amusing to a man of good temper, to see how the change he took in paying for his breakfast is refused with perfect coolness where he eats his dinner. It is true, the money-changer is always near at hand to help him out of his difficulty; but could we not with much good grace say adieu to pounds, doubles, simples, ducats, piastres, zecchini, crowns, zwanzigirs, roubles, Francisconi, Testoni, lires, groschen, kreutzers, kopecks, leptos, custom-house figures, and money-changers?

NOTES.

The three Units — the Pound, the Franc, and the Dollar.

THE present English pound unit was introduced in 1816.

Under the Romans the pound of money was a pound of copper metal. Under Alfred the Great the same term meant a pound of silver metal. It has only had a definite fixed value in coin for forty-two years.

The present franc was introduced with the metrical system which was proposed in 1790.

In France, the "livre tournois" (Tours pound), equal to 1·0125 francs was issued on and after 1667. The word franc formerly applied to a free citizen, and has not been applied as a fixed money unit for more than fifty-nine years, the metrical system being completed in 1799.

The dollar is derived from "thaler," an abbreviation of Joachimsthaler, the name of the mine in Saxony where the silver was first coined in 1519.

This early type of coin has retained the same name generally, although it has had different names in several different countries. Its value has also remained very nearly the same.

It is at present the money unit employed over the whole continent of America, Canada having recently adopted it, and it is the only western unit recognised in the East. It prevails, or is a familiar unit, with a slight variation in value, throughout the following states; its value being approximately given in the standard proposed for the universal currency.

Austria—rix dollar	$1.03	Sweden—rix dollar	$1.13
Baden	1.04	Wurtemburg	1.04
Bavaria	1.00	Spain	1.07
Brunswick	1.04	Canada	1.04
Hamburgh	1.15	United States	1 04
Hanover	1.16	Russia—ruble	0.90
Hesse Cassel	1.02	Rome—scudo	1.07
Holland	1.10	Parma—ducat	1.04
Lubec	1.07	Modena—scudo	1.11
Prussia	1.04	Sicily— „	1.01
Saxony	1.04	Tuscany— „	1.11
Denmark	1.13	Naples—lira	1.03

Seventeen states, it appears, now have the dollar unit in name; and the same type exists under this and other names in twenty-four states. It varies but 7 cents in seventeen states.

If we add to the above states, the various states and provinces of North and South America, we find that the dollar in name, or as a money type circulating commercially in America and Europe, over

17 millions of square miles, and
among 230 millions of people.

The franc circulates in France, Sardinia, Brussels, Switzerland, over

357 thousand square miles, and
among 50 millions of people.

The pound circulates in the United Kingdom (Cape of Good Hope and Australia not being included in the comparison) over

116 thousand square miles, and
among 27 millions of people.

Were the Cape of Good Hope and Australia included in the circulation of the pound unit, it would be many times more than balanced by the use of the dollar in Asia. Indeed, no general change of currency should be made without reference to the extensive, and, in many cases, the exclusive, recognition of the dollar unit in China and in India.

In British India there is a special currency allied to the native coinage; but here it would not be difficult to substitute the new standard, as the

rupee contains 165 grains fine silver,

and the new half dollar contains 156·25 grains fine silver.

Russia would find the new standard but a small departure from the one she now has; in fact it would be merely reinstating the gold standard of 1756, when the gold rouble was within one per cent of the proposed dollar.

In the German states, where the question of a uniform currency is now receiving public attention, nothing could be more suitable or more popular than to bring the present varying dollar units to the standard of the *metrical dollar*, make this dollar unit in gold only, of the convenient form of the present 5 franc piece, not the American gold dollar, so that the largest silver piece would be the new florin of fifty cents, and the whole coinage would be based on the only decimal weight.

By the above figures, it must be conceded that there is

some ground for proposing the dollar as the universal unit, from its antiquity, from the stable value it has ever maintained, from its extensive use, from its preservation of all the principal types of coins in France, England, Russia, the Zollverein, Spain, and Italy; and also, henceforth, from its connection with the metrical system.

Transition.

It would be easy to change the present currencies, whether in money or account, into the new unit.

Pounds multipled by 5 would be dollars.
Shillings divided by 4 would be dollars and cents.
Pence multiplied by $2\frac{1}{12}$ would be cents.
Francs divided by 5 would be dollars and cents.

To change the English into the French currency is much more difficult.

In weight there would also be an advantage over the present French system. Gold is chiefly used for very good reasons in balancing exchanges. Very little silver is brought to the weight-test compared with gold; and yet 50 francs at present weigh 16.129 grammes.

I propose $10, or 50 francs, should weigh 16 grammes, and, consequently $25 would = 40 grammes, $50 = 80 grammes, &c.

The kilogramme of standard gold would be $625

At present it is nearly . . . . 3,100 francs.

Another favourable feature of its transition in England would be the close approximation of the old and new sovereigns in weight; viz.—

The old sovereign $\frac{11}{12}$ fine = 123.274 grains.
„ new „ $\frac{916}{1000}$ „ = 123.457 „

For the feasibility of changing the standard in America, as I have proposed, I would refer to the change in gold in 1834.

$5 of 1792 = 123.75 grains.		$5 present standard fine gold = 116.1	grs.
$5 „ 1834 = 116	„	$5 *proposed* „ „ = 111 112	„

10 dollars in silver would weigh 225 grammes.

The copper coin, the most suitable for the purpose, would readily serve as weights in cases of emergency; the cent being equal to 5 grammes, and 200 cents being equal to 1000 grammes, or the new pound.

Seignorage.

The coinage of money should not be an expense to government, as it is at the present time in England; it had much better be a source of revenue.

In France, the charge for coining silver is 1.50 francs per kilogramme, or 200 francs, a little more than $\frac{3}{4}$ of 1 per cent. For gold, the charge is 6.70 francs per kilogramme, or 3.100 francs, a little more than $\frac{1}{2}$ of 1 per cent.

In the United States, the charge for gold is $\frac{1}{3}$ of 1 per cent.

Should England adopt such a charge, it would help to meet the difficulties in changing the standard as I have proposed. It would be very proper, even, for each government to adopt an extra seignorage of 1 per cent. for a limited time during the transition, and the consequent pressure of recoinage.

Remedy.

For the Remedy, or the limit of departure from the standard, I propose—

.004 per cent. for all silver,
and, .0025 „ „ gold.

This will give for the half-dollar piece —

Silver Standard.	Limit of excess.	Deficiency.
11.25 grms.	11.295	11.205

4½ centigrammes per piece.

Dollar piece —

Gold Standard.	Excess.	Deficiency.
1.6 grms.	1.604	1.596

4 milligrammes per piece.

For the $5 piece —

Standard.	Excess.	Deficiency.
8. grms.	8.02	7.98

2 centigrammes per piece.

One of the Reasons why France should adopt the Universal Currency.

A sovereign contains in fine gold 113 grains.
25 francs contain „ 112 „

Therefore the sovereign is worth the most.

Now the sovereign represents in England, in fine silver 1614.54 grains.
25 francs of gold represent in France, in fine silver . 1736.14 „

Hence the sovereign represents 7 per cent. more of fine silver in France than in England.

England cannot be expected to propose the changing of this state of things, so long as she can obtain French silver on such terms as to nett 6 per cent. by the re-coinage.

Different Decimal Systems of Money.

I take it for granted, the time is not very distant when the commercial people of England will see the advantages of a decimal monetary system, and will introduce it. The chief advocates of the £ *s.* and *d.* system, having made a colossal fortune under this system, may well support it. But those who have fortunes to make will prefer to avoid useless and expensive computations. The old system, before the decimal coinage commissioners, has probably received its last defence. Its complexity, and its liability to error in account, are objections too freely admitted to allow it any place in comparison with a true decimal system.

The systems proposed to take the place of it are as follows:—

1st. The pound and mil scheme.

This is a new system, never before tried. It employs three figures on the right of the unit, and is therefore decidedly objectionable.

It also sacrifices the convenience of the decimal system to the pound unit. From being inharmonious with all other decimal systems, if adopted, it leaves England as isolated as ever from the monetary systems of other nations.

The 2nd is the French currency.

This is impracticable, because it proposes the extreme small unit of the franc, in place of the extreme large unit of the pound.

It also involves the destruction of all the principal types of coins, thus encountering national prejudices, which could not be overcome in an age.

The suggestion of the American government, through Professor Alexander, to assimilate the fineness and weight of different units, so that one might be the exact multiple of the other, does not touch the merits of the case. It proposes no decimal system for England; or, if it can be fairly inferred

from the Professor's pamphlet, that he proposes any system for England, it is the pound, florin, minster, and farthing scheme, the same as the unwieldy "pound and mil" scheme. But this project of assimilating the value of the five-dollar piece with the sovereign is based on the old system of weight; and therefore it cannot stand. Division and half-way work had better be left alone; or, to quote an excellent authority with reference to this subject, Mr. James Yates, "A good system is not likely to emerge from the amalgamation of two bad or indifferent systems."

Hence I am led to believe, that the plan put forth for obtaining a universal currency is the true plan for England.

As a monetary system, the American currency is much more familiar to English merchants than the French currency, especially in the places of growing wealth and political power, like Manchester, Liverpool, and Glasgow. Besides, it can be easily introduced, saving, as it does, the cherished types of coins.

To facilitate the transition in England, if deemed desirable, the new coins might be stamped thus: 5 dollars, or 20 shillings; 25 cents, or 1 shilling; as suggested by an eminent London Banker.

Again; it will give, what some of the English advocates of the French system particularly desire, small pieces of coin. The quarter-cent would be equal to the half-farthing, and therefore sufficiently small for all purposes; and while it would be just as convenient for retail trade as if the cenli-unit was brought down to one-fourth or one-fifth of the value proposed, it would save the useless figures in account incurred by the smallness of the franc unit.

As a practical illustration of this point under the French system, it will be found, if books are examined, that not one account in one hundred contains an item of less value than five centimes.

Then the members of the International Decimal Association will, I trust, be able to discover in my plan some advantages over the French currency.

They will find that it gives coins small enough to buy "a few pins" or "a few buttons" at a time, that it has decimal divisions, that it is founded on decimal weight, that it saves all the favourite coins now in use, besides offering an unit far more suited than the franc to become the successor of the pound. In addition to these arguments, they would find the

whole western continent ready to adopt the idea at once, and urge forward the great system of harmony; although, in the adoption of this plan, the greatest change of standard, and therefore the greatest difficulty, would be incurred by America.

The advocates of the silver standard I would ask, Why carry fourteen pounds of weight, when one will answer the purpose just as well? It is an erroneous impression — recent discoveries notwithstanding — that gold is more irregular in its supply than silver, and therefore promises to be less stable. On the other hand, the geological formations where gold is mostly found, are such that gold mining promises to be a regular business, yielding very uniformly in return for the labour invested.

The argument that claims silver as a standard in preference to gold, would apply with quite as much force to the claims of copper over silver. In one sense, this is a matter resting entirely beyond the power of legislation. The great commercial nations choose gold for a standard from necessity. Commerce demands for its purposes the most convenient metal, and gold, being the most precious, answers this demand in quality, and, at present, in quantity.

It is true the value of gold turns on its scarcity, and should it ever be found in the same abundance as copper, there would be an end to its great value. At the same time, silver has been increasing in value until the former ratio between that and gold has been destroyed; though since the quicksilver discoveries in California, this metal promises a future yield that will preserve the present ratio.

But the present ratio between the metals is such, that five francs of silver, nine-tenths fine, to twenty-five grammes, no longer exists in reality. It was a charming feature of the metrical system, that the value of silver admitted this connection at the time; but while the gramme has remained in weight—and must continue to remain the same — the value of silver has been yielding to a law over which monarchs have no control.

Hence it is that France must change the legal ratio between the metals, or lose her silver.

Those who are needlessly alarmed about the decline in the value of gold, I would ask, How could our railway system have been completed without the gold of California and Australia? And what would have been the home results of

Crimean and Indian wars, without an influx of that metal which is by weight current everywhere? In case there is a comparatively small, but constant decline, in the value of gold, owing to the distribution of labour, and the increase of the metal—suppose the fixed income should represent less and less of the products of labour—is it a consequence to be controlled in any way? The labour expended in gold mining, doubtless contributes the least of any to the property value of the world, gold being only useful as a medium or basis of exchange.

But at present, there is none too much of this basis for stable business. Its amount is even so slight, in comparison with the total property value, that in the late crisis it was by no means equal to the emergency. The American banks, and the Bank of England, had to choose between the suspension of specie payment and utter ruin.

There is another phase of monetary economy that is worthy of careful observation. The same amount of specie is performing much more work than it performed ten years ago. The opening of new countries, and the extended use of mechanical power, may add to the property value of the world three hundred million dollars per year; while the metal basis increases but one hundred millions: and yet the increase of money may appear more in proportion than the increase of property, from the additional facilities of clearing-houses. This clearance system is one of the most important features of commercial times; and it is to be hoped that it will go on developing itself until there is an end of doubtful credits, and the shipping of gold in opposite directions at the same time.

But the prospective augmentation of the quantity of gold, as well as of its increased power, will be called for by the growing trade of communities, if that trade is to continue stable and progressive.

Above all, however, we want harmony among the currencies of nations. Let this harmony be established in the unit, in the fineness and decimal weight, and in the ratio of the two metals — all of which is within the reach of legislation — and then one piece of money shall be recognized and be current in every portion of the world within the boundaries of civilization.

The rest belongs to commerce.

APPENDIX.

DECIMAL WEIGHT AND MEASURE.

THE FRENCH PLAN SIMPLIFIED.

It is the decimal feature of the French metrical system that gives it its merited popularity, and not the clumsy harsh-sounding names of three syllables for every tenfold increase or decease in amount.

These names have a logical meaning to the scholar, it is true, but ninety-nine out of a hundred who use the weights and measures know nothing of the Greek or Latin significance of these names, and care less. Why should they? What are the Greek and Latin languages of a dead Past doing for the living active Present? What do they promise for the future? What are they doing towards ameliorating the condition of man; or what are they contributing towards the true pride or power of the present? To cling to such languages as a part of progressive education is to dampen true aspiration and crush out individuality. They belong to the special pursuits of the classicist and archæologist, and as such they are of great import-

ance. Let any one who doubts this, ask himself how the splendid classic works of the Periclean age would have been produced, had all the genius and talent of Athens, at that time, been devoted to the study of the Past alone.

It is, then, absurd to give long, tedious names to measures; for to the majority they are names and nothing more, when simple and euphonious ones could be used instead.

Hence, I say, take the metrical system so generously planned by the French philosophers, and now so extensively disseminated; take this decimal system, and simplify it in this manner: Let the units of length, surface, solidity, capacity and weight, viz., the metre, the are, the stere, the litre, and the gramme, be taken and changed in orthography, as proposed by Mr. W. W. Mann, to mett, arr, sterr, litt, and gramm, so that the pronunciation would be the same in all languages. Then, as we do not want a unit for every ten-fold, let the units above given be divided into hundredths, only, with the euphonious prefix already employed in the currency. Thus centimett, centiarr, centisterr, centilitt, and centigramm. The decimal of the latter terms to be used for lower divisions, instead of millimett, &c.

Above the units for length and weight, I would employ the *new units* of the mile and the pound; the former being the kilomett, or 1000 metts, and the latter the kilogramm, or 1000 gramms. These units

are so widely known, and so firmly fixed, that they would come into vogue with a changed value much more easily than new units representing the same quantity. And with the facility of the decimal system, the new mile and the new pound would soon become popular; the former being equal to five-eighths of the old mile, and the latter equal to two and one-fifth of the old pounds.

The systematic names for a hundred-fold of the units in the other measures, to be modified so as to be shorter and more euphonious, and, at the same time, suggest the value. Thus: hecarr, equal to 10,000 square metts, or 2.47 acres (the arr, or unit, being 100 square metts); the hecsterr equal to 100 cubic metts, or 3531.65 cubic feet; and the heclitt equal to 100 litts, or 22 gallons.

In this manner, the cumbersome names, such as kilometre, hectostere, hectolitre, decagramme, and myriagramme, would be dispensed with, and the beautiful decimal system retained in all its perfection and simplicity.

Much could be said, however, in favour of retaining the English standard measure for length. It is true the yard is arbitrary; but has not the French standard now become just as much so? The best judges agree that no two measurements of the arc, representing one ten-millionth part of the spherical distance of the equator from the pole would agree. And is it supposed the present standards will ever be

lost, and that the necessity of another measurement will therefore occur? Were this probable, even, the present standard mett, if allowed to be a measurement, whose exact amount the best experts would differ in rendering, is as arbitrary as the standard adopted by the British government in 1836.

Besides, the Anglo-Saxon race is now carrying this English standard wherever commerce gives profit, or leads the way for new civilisation. In fact, if one roams about the world much, it becomes evident that the time is not so very distant when the Anglo-Saxon language will become universal. With the diffusion of this language there must be, as a matter of course, the diffusion of the customs and habits which have grown up with it.

But I will appeal to no national prejudices in favour of local systems, when they are not founded on the true basis, although they may appear to be widely recognised.

The cumbersome systems of measure, though of traditional descent, should be put aside, like the armour of the middle ages, now only to be seen in museums.

It may not be out of place to add, that the centigrade thermometer appears to be a part of the great harmonious system of measure, and should be urged forward in its adoption by every scientific man.

The freezing point in centigrade is zero, the boiling point is 100. A child can remember this at once;

but how many grown people have been puzzled to remember the freezing and the boiling points in Fahrenheit.

The common decimal standard in measures is called for by our time.

Great material interests and individual convenience demand that the various measures of local value and accidental standard should give way for the universal decimal system.

Indeed, no one can give the least attention to this simple labour-saving system, without being strongly pre-disposed in its favour. And no one can enter into the various advantages, or the ever-widening influence for good, that would accrue from the general adoption of such a system, without giving it the aid and encouragement that is bestowed by the true friend of progress upon every great reform.

THE FRENCH DECIMAL SYSTEM OF WEIGHT AND MEASURE SIMPLIFIED.

Length.

100 centimetts = 1 mett
1000 metts = 1 mile.

(The mett = 39·271 inches; the mile = $\frac{5}{8}$ of the old mile.)

Surface.

100 centiarrs = 1 arr
100 arrs = 1 hecarr.

(The hecarr = 2·47 acres.)

Solidity.

100 centisterrs = 1 sterr
100 sterrs = 1 hecsterr.

(The hecsterr = 3531·65 cubic feet.)

Capacity.

100 centilitts = 1 litt
100 litts = 1 heclitt.

(The litt = 1·76 pints; the heclitt = 22·009 gallons.)

Weight.

100 centigramms = 1 gramm
1000 gramms = 1 pound
1000 pounds = 1 ton.

(The gramme = 15·433 troy grains.)
(The new pound [*n*lb.] = 2·6793 troy, or 2·2046 avoirdupoise.)

THE FRENCH DECIMAL SYSTEM OF WEIGHT AND MEASURE AS IT IS.

Length.

The myriametre	=	10,000 metres
,, kilometre	=	1,000 ,,
,, hectometre	=	100 ,,
,, decametre	=	10 ,,
,, *metre*	=	1 metre
,, decimetre	=	$\frac{1}{10}$ of a metre
,, centimetre	=	$\frac{1}{100}$,,
,, millimetre	=	$\frac{1}{1000}$,,

Surface.

The hectare	=	1,000 square metres
,, are	=	100 ,, ,,
,, centiare	=	1 square metre

Solidity.

The decastere	=	10 cubic metres
,, stere	=	1 cubic metre
,, decistere	=	$\frac{1}{10}$ of a cubic metre

Capacity.

The kilolitre	=	1,000 litres
,, hectolitre	=	100 ,,
,, decalitre	=	10 ,,
,, litre	=	1 litre
,, decilitre	=	$\frac{1}{10}$ of a litre
,, centilitre	=	$\frac{1}{100}$,,

Weight.

The myriagramme	=	10,000 grammes
,, kilogramme	=	1,000 ,,
,, hectogramme	=	100 ,,
,, decagramme	=	10 ,,
,, *gramme*	=	1 gramme
,, decigramme	=	$\frac{1}{10}$ of a gramme
,, centigramme	=	$\frac{1}{100}$,,
,, milligramme	=	$\frac{1}{1000}$,,

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